



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,271	11/13/2003	Kenichiro Naito	1761.1051	5658
21171	7590	10/22/2007	EXAMINER	
STAAS & HALSEY LLP			KRAUSE, JUSTIN MITCHELL	
SUITE 700				
1201 NEW YORK AVENUE, N.W.			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20005			3682	
			MAIL DATE	DELIVERY MODE
			10/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<i>Interview Summary</i>	Application No.	Applicant(s)
	10/706,271	NAITO ET AL.
	Examiner	Art Unit
	Justin Krause	3682

All participants (applicant, applicant's representative, PTO personnel):

- (1) Justin Krause. (3) _____.
 (2) Greg Harper. (4) _____.

Date of Interview: 17 October 2007.

Type: a) Telephonic b) Video Conference
 c) Personal [copy given to: 1) applicant 2) applicant's representative]

Exhibit shown or demonstration conducted: d) Yes e) No.
 If Yes, brief description: _____.

Claim(s) discussed: Proposed 1 and 6.

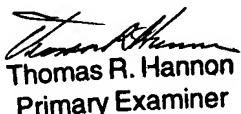
Identification of prior art discussed: None.

Agreement with respect to the claims f) was reached. g) was not reached. h) N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Mr. Harper faxed a copy of proposed amendments to the claims. The claims were reviewed by the examiner and deemed not to place the application in condition for allowance, but the Examiner suggested language that could place the case in condition for allowance. Applicant is reminded, the suggested language is subject to further search and consideration upon the filing of the amendment.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.



Thomas R. Hannon
Primary Examiner

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.



Examiner's signature, if required

STAAS & HALSEY LLP

Intellectual Property Attorneys

1201 NEW YORK AVE, NW
SUITE 700
WASHINGTON D.C. 20005TEL: 202-434-1500
FAX: 202-434-1501**FACSIMILE TRANSMISSION**

DATE: 10/17/2007
TO (R/RM): USPTO, Art Unit 3682
ATTN: Examiner Justin Krause
FAX NO: 571 273 3012
FROM: Mreg Harper
RE: Proposed Amendment
YOUR REF: 10/706,271
OUR DOCKET NO: 1761.1051
NO. OF PAGES INCLUDING THE COVER SHEET: 8

PRIVILEGED & CONFIDENTIAL

The information contained in this communication is confidential, may be attorney-client privileged, and is intended only for the use of the addressee(s). Unauthorized use, disclosure or copying is strictly prohibited. If there are any problems with this transmission, please contact us immediately.

COMMENTS: Dear sir, Please take a look at this proposed amendment and let me know if you think we can overcome some of the 112 and art rejections. Please give me a call when you've had a chance to review. My number is 202 454 1586. Respectfully,

Docket No.: 1761.1051

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Kenichiro NAITO et al.

Serial No. 10/706,271

Group Art Unit: 3682

Confirmation No. 5658

Filed: November 13, 2003

Examiner: Justin Krause

For: RESIN-MADE BALL RETAINER FOR A ROLLING BEARING

AMENDMENT

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

This is in response to the Office Action mailed July 30, 2007, and having a period for response set to expire on October 30, 2007.

The following amendments and remarks are respectfully submitted. Reconsideration of the claims is respectfully requested.

Serial No. 10/706,271

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1 and 6, and CANCEL claim 7 in accordance with the following:

1. (Currently Amended) A ~~resin-made~~ ball retainer for a rolling bearing, which comprises:

a ring-shaped or arcuate resin-made retainer body having inner and outer peripheral surfaces opposite to each other; and

a plurality of pockets defined in the retainer body so as to open at the inner and outer peripheral surfaces of the retainer body and spaced from each other in a direction circumferentially thereof for rollingly retaining corresponding balls therein;

wherein radial sides of an inner surface of each of the pockets that are opposite to each other in a radial direction of the ball retainer are defined as spherical ball bearing surfaces to which each ball contacts;

wherein intermediate portions of the inner surface of each pocket with respect to the radial direction are defined as circumferential non-contact surface areas that the corresponding ball is prevented from contacting;

wherein substantially all edges of the ball bearing surfaces of the inner surface of each pocket, which contact the ball, are chamfered edges; and

wherein the radial sides portion of the retainer body adjacent each pocket is formed as a thick walled portion ~~of having a radial thickness greater than the~~ radial thickness of the retainer body not adjacent each pocket.

2. (Original) The resin-made ball retainer for the rolling bearing as claimed in Claim 1, wherein portions of the inner surface of each pocket, which lie in a direction intersecting the direction of rotation of the ball retainer, are formed with intersecting oil reservoir grooves each being in the form of a generally elongated recess of a curved surface and extending in a direction radially of the ball retainer.

Serial No. 10/706,271

3. (Original) The resin-made ball retainer for the rolling bearing as claimed in Claim 1, wherein each of the pockets has an opening defined so as to open at one end of the ball retainer with respect to an axial direction thereof and wherein a bottom of the inner surface of each pocket opposite to such opening is formed with a bottom oil reservoir groove of a generally concaved shape.

4. (Cancelled)

5. (Previously Presented) The resin-made ball retainer for the rolling bearing as claimed in Claim 1, wherein respective portions of one axial end of the retainer body, where the corresponding pockets are defined, are each provided with a pair of projections for embracing the corresponding ball and wherein an inner surface of each of those projections defines a part of the inner surface of the respective pocket.

6. (Currently Amended) A resin-made-ball retainer for a rolling bearing, comprising:
a ring-shaped or arcuate resin-made retainer body having inner and outer peripheral surfaces opposite to each other; and

a plurality of pockets defined in the retainer body to open at the inner and outer peripheral surfaces of the retainer body, the pockets being spaced from each other in a circumferential direction of the retainer, rollingly retaining corresponding balls therein;

each pocket comprising

opposing fore and aft portions with respect to the circumferential direction, and
a lubricant reservoir groove disposed between the fore and aft portions and
axially opposite an axial opening of the pocket;

each of the fore and aft portions comprising

a pair of ball bearing surfaces disposed at inner and outer radial edges of an internal surface of the pocket,

a non-contact surface area disposed between the ball bearing surfaces, and
offset from the ball bearing surfaces, such that the corresponding ball is prevented from
contacting the non-contact surface area, and

a radially disposed intersecting lubricant reservoir groove, intersecting the ball bearing surfaces and the non-contact surface area,

wherein substantially all edges of the ball bearing surfaces are chamfered, and

wherein the fore and aft portions of the retainer body adjacent each pocket is are formed

Serial No. 10/706,271

as a thick walled portion ~~of~~ having a radial thickness greater than ~~the~~ a radial thickness of the retainer body not adjacent each pocket.

7. (Cancelled)

Serial No. 10/706,271

REMARKS**INTRODUCTION**

In accordance with the foregoing, claims 1 and 6 have been amended. Claim 7 has been cancelled. Claims 1-3, 5 and 6 are pending and under consideration.

CLAIM REJECTIONS – 112

Claims 1-3, 5 and 6 were rejected under 35 USC 112, second paragraph, as being indefinite. Specifically, the Examiner noted that in claims 1 and 6 the phrases "the portion of the retainer body adjacent each pocket" and "the radial thickness of the retainer body not adjacent each pocket" lacked antecedent basis. Appropriate correction has been made to claims 1 and 6.

Withdrawal of the foregoing rejection is requested.

CLAIM REJECTIONS – 102 and 103

Claims 1 and 5 were rejected under 35 USC 102(b) as being anticipated by Mutoh et al. (US 6,068,408) (hereinafter "Mutoh '408").

Claims 2 and 6 were rejected under 35 USC 103(a) as being unpatentable over Mutoh '408 in view of Mutoh et al. (US 6,074,099) (hereinafter "Mutoh '099").

Claims 3 and 7 were rejected under 35 USC 103(a) as being unpatentable over Mutoh '408 in view of Yamamoto et al. (US 2003/0012461) (hereinafter "Yamamoto").

Claims 1-3 and 5

Amended claim 1 recites: "... a ring-shaped or arcuate resin-made retainer body having inner and outer peripheral surfaces opposite to each other...wherein the radial sides are formed as a thick walled portion having a radial thickness greater than a radial thickness of the retainer body not adjacent each pocket." Support for this amendment may be found in the preamble of claim 1 and Figure 1. In the Office Action, in the "Response to Arguments" section, the Examiner noted that in their previous form, the claims did not prohibit the Examiner's interpretation that the elastic pieces 12 were a part of the main portion 7.

It is respectfully submitted that in its amended form, claim 1 clearly recites that the retainer body is resin-made.

By contrast, Mutoh '408 only discusses that the annular main portion 7 is made of a synthetic resin or the like. Claim 1 further recites that the radial sides – which are made of resin

Serial No. 10/706,271

— adjacent each pocket a radial thickness greater than a radial thickness of the retainer body. In contrast, the resin-made main portion 7 of Mutoh '408 has the same radial thickness of the pocket 8. Although, Mutoh '408 shows in Figure 11 a thin walled portion between the elastic pieces 12 disposed on the main portion 7, it is respectfully submitted that this thin portion does not obviate the technical feature of claim 1 where the radial sides are have a radial thickness greater than the retainer body. In Mutoh '408, The elastic pieces 12 have a radial thickness equal to the radial thickness of the main portion 7.

This technical feature of claim 1 where the thickness of the retainer body is such that the radial thickness of the general portion of the retainer body is smaller than the radial thickness of the radial sides of the retainer body makes it possible to effectively suppress rubbing sounds which would be generated as a result of contact between the retainer and an inner peripheral surface of an outer race and/or an outer peripheral surface of an inner race, particularly in the case of application to a bearing having a large diameter and a small wall thickness. Further, when the general portion of the retainer body has a relatively small wall thickness, lubricant such as grease can be retained in a gap between the retainer and the inner peripheral surface of the outer race and/or the outer peripheral surface of the inner race for the smooth introduction of such lubricant into the pocket. Because of this, not only can lubrication at those areas of sliding contact be maintained advantageously in a favorable condition, but any undesirable generation of vibrations and noises from those areas of contact can also be further suppressed efficiently.

Claims 2, 3 and 5 are dependent on claim 1 and are therefore believed to be allowable for at least the foregoing reason.

Withdrawal of the foregoing rejection is requested.

Claim 6

Amended claim 6 recites: "...a ring-shaped or arcuate resin-made retainer body having inner and outer peripheral surfaces opposite to each other...wherein the fore and aft portions of the retainer body adjacent each pocket are formed as a thick walled portion having a radial thickness greater than a radial thickness of the retainer body not adjacent each pocket." Support for this amendment may be found in the preamble of claim 6. The Office Action relies on Mutoh '408 to discuss the feature of claim 6 where the fore and aft portions of the retainer body adjacent each pocket are formed as a thick walled portion having a radial thickness greater than a radial thickness of the retainer body not adjacent each pocket.

Serial No. 10/706,271

It is respectfully submitted that in its amended form, claim 6 clearly recites that the retainer body is resin-made and further that the fore and aft portions – which are made of resin -- adjacent each pocket have a radial thickness greater than a radial thickness of the retainer body. In contrast, the resin-made main portion 7 of Mutoh '408 has the same radial thickness of the pocket 8. Although, Mutoh '408 shows in Figure 11 a thin walled portion between the elastic pieces 12 disposed on the main portion 7, it is respectfully submitted that this thin portion does not obviate the technical feature of claim 6 where the radial sides are have a radial thickness greater than the retainer body. In Mutoh '408, The elastic pieces 12 have a radial thickness equal to the radial thickness of the main portion 7.

Withdrawal of the foregoing rejection is requested.

Claim 7

Claim 7 has been cancelled.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: _____

By: _____

Gregory W. Harper
Registration No. 55,248

1201 New York Avenue, NW, 7th Floor
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501